

A NEW SPECIES OF LEPIDOSAPHES SCALE INFESTING
UMBRELLA PINE IN CALIFORNIA

(Homoptera: Coccoidea: Diaspididae)

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The new diaspidid scale, *Lepidosaphes sciadopitysi* McKenzie, described in this article has gone many years without the benefit of a specific name mainly because of confusion which has existed regarding the identity of North America coniferous-infesting species of this group. In California the new species is found intermixed with *Lepidosaphes maskelli* (Cockerell), (previously considered by Ferris¹ (1938) as *Lepidosaphes newsteadi* (Sulc), on the needles of Umbrella pine, *Sciadopitys verticillata*.

Correspondence (December 15, 1949) from Dr. Harold Morrison, Coccidologist of the United States Department of Agriculture, called attention to the mistaken identity of *Lepidosaphes newsteadi* infesting conifers in North America, and after his review stated: "I have no reason to believe that *Lepidosaphes newsteadi* is present in this country and expect that all records of this, including that by Ferris (Atlas II:146), will ultimately be assigned elsewhere." More recently, Balachowsky² (1954) presents a published account of Morrison's statements and correctly identifies the species in North America as *Lepidosaphes maskelli* (Cockerell).

The only California infestation of *Lepidosaphes sciadopitysi* on Umbrella pine is in association with *L. maskelli*, the latter being by far the most predominant species. For example, out of twenty-four specimens mounted for microscopic examination, only two of them proved to represent *L. sciadopitysi*. Morrison further indicated in his correspondence that there were two or three collections of *Lepidosaphes sciadopitysi*, in each case infesting *Sciadopitys verticillata*, from the eastern United States, these apparently not intermixed with any other species. Consequently, at the request of the author, Dr. Morrison kindly made available these various lots to be used as type material of this species. At Dr. Morrison's suggestion the holotype will be deposited in the United States Department of Agriculture collection at Washing-

¹ Ferris, 1938, Atlas of the Scale of Insects of North America, Stanford University Press, Stanford University, California, Series 2:146, illustrated.

² Balachowsky, 1954, Les Cochenilles Palearctiques de la Tribu des Diaspidini, Memoires Scientifiques de L'Institut Pasteur, pages 87-91, illustrated.

ton, D.C. A description of the species follows:

***Lepidosaphes sciadopitysi* McKenzie, new species**

(Figure 1)

Suggested Common Name: Umbrella pine *Lepidosaphes*.

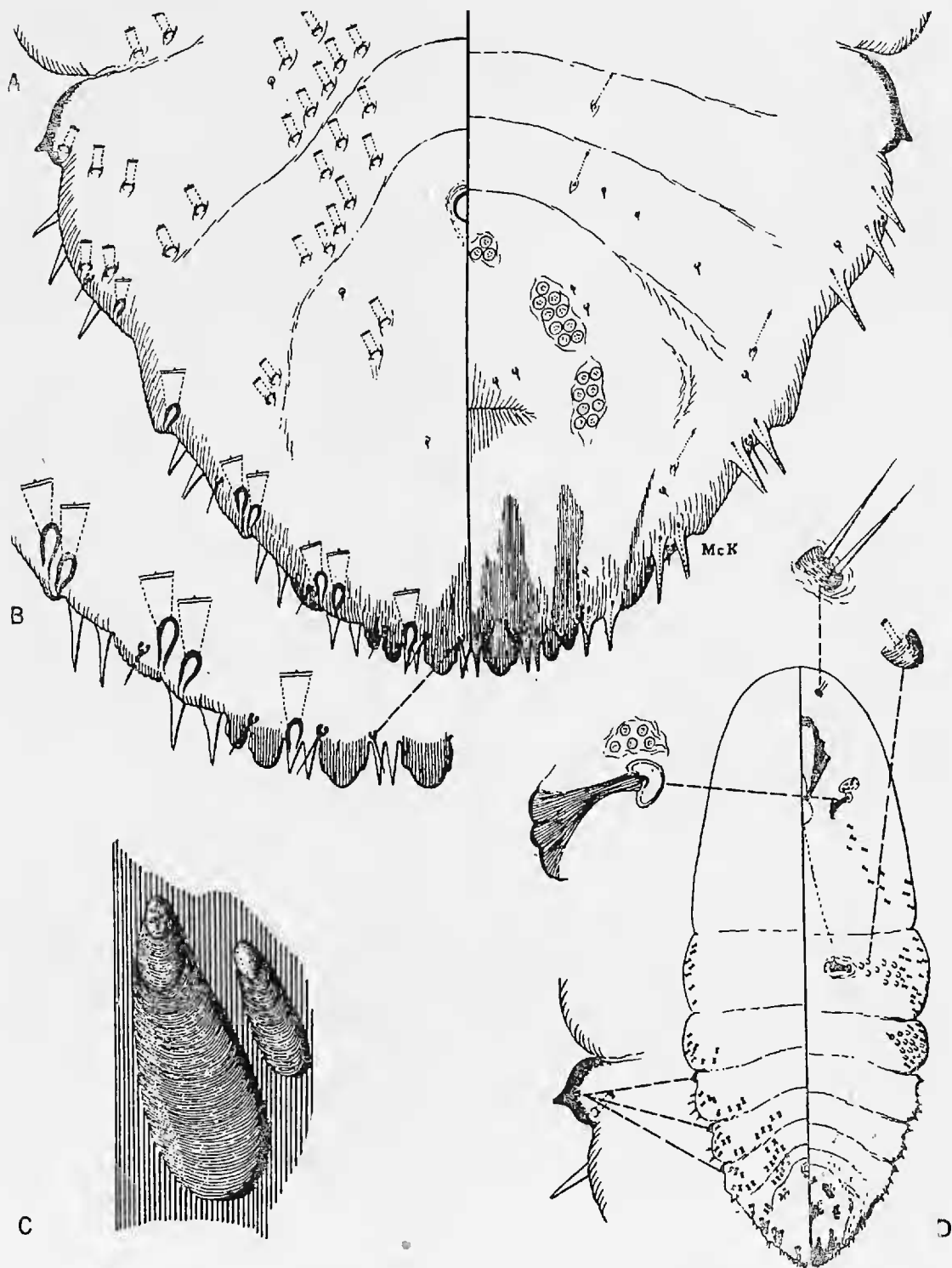
Host and Distribution: Type and paratypes from *Sciadopitys* sp. (probably *verticillata*) collected at GREENWICH, CONNECTICUT on November 10, 1908 by Charles T. Hatling. Additional paratypes are available from the same host collected at Washington, D.C. (Botanical Gardens) on November 15, 1908 by J. D. Sanders; on *Sciadopitys verticillata* at Garden City, Long Island, New York, on August 2, 1930 by J. G. Saunders; on the same host at Conshohocken, Pennsylvania on June 18, 1945 by G. B. Slesman; and the same host at San Marino, Los Angeles County, California on October 25, 1949 by R. W. Harper.

Type Material: Type slide with four specimens, the holotype ringed with black ink, and paratypes will be deposited in the United States National Museum, Washington, D.C. Additional paratypes will be placed in the California State Department of Agriculture collection at Sacramento, California, and in the author's own collection.

Habit: Occurring on the needles. Scale of the female quite slender, averaging approximately 1.40 mm. long, brownish, exuvium terminal; male scale smaller, similar in color to that of adult female, exuvium terminal.

Recognition Characters: Length as mounted on microscope slide averages slightly less than 1 mm.; membranous at full maturity; abdominal segments but little produced laterally and with three sets of pronounced lateral sclerotized spurs (see illustration); antenna two-spined; perivulvar pores present in five groups, anterior median group ranging from 3-7, average 4.6, anterior lateral group ranging from 5-11, average 7.2, posterior lateral group ranging from 4-9, average 5.7; median pygidial lobes relatively small, low and rounded apically, once-notched on each side, second lobes bilobed, each once-notched on outer margin, remainder of pygidial margin with no distinctive features; dorsal macroducts much smaller than marginal ones of pygidium, submedian ones occurring across prepygidial abdominal segments 3-4 inclusive, and marginally only on first abdominal segment and metathorax, dorsal submedian macroduct group on sixth

segment containing usually one or two ducts on each side; fifth segment with but one or two submarginal macroducts on each side; ventral microducts and gland tubercles situated as shown on accompanying illustration.



EXPLANATION OF FIGURES

A, pygidium of adult female; B, details of the dorsal aspect of the pygidial margin; C, habit; D, body of the adult female. Unlettered details are connected to their points of origin by guide lines and should be readily identifiable. The figures were prepared by the author. They are based upon well-stained examples which emphasize the derm sclerotization.

Notes: In California, *Lepidosaphes sciadopitysi* McKenzie, is found intermixed with *L. maskelli* (Cockerell) on the needles of Umbrella pine situated in the Huntington Gardens at San Marino, Los Angeles County. This is the only known infestation of *sciadopitysi* in the State. The scale has persisted for years in spite of repeated attempts to control it by spraying.

Both *L. sciadopitysi* and *L. Maskelli* are indistinguishable externally on the needles. Microscopically, however, *sciadopitysi* differs from *maskelli* chiefly in the presence of three (3) sets of lateral abdominal spurs, these lacking in *maskelli*, and a two-spined antenna as compared to only one-spined in *maskelli*.

AN ECONOMICALLY IMPORTANT APHID NEW TO THE UNITED STATES¹

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Among aphids sent F. C. Hottes, Grand Junction, Colorado, for identification were found several slides of *Myzus ascalonicus* Doncaster. These aphids were collected April 24, 1940, at Evanston, Wyoming, from onion sets sent from Detroit, Michigan. So far as is known this aphid has not previously been reported from the United States, although it has been found on chrysanthemum and carrot in Canada (MacGillivray, 1954). It was first described in England by Doncaster (1946a), who found it on shallots, onions, and other plants in storage, in the greenhouse, and in the open.

It is interesting to note that *M. ascalonicus* was first noticed in England in 1941 (Doncaster, 1946b), while the Wyoming collection was made in 1940. This aphid has been shown to be an efficient vector of several plant diseases (Doncaster 1946b), and is thus of potential importance in the United States.

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DONCASTER, J. P.

1946a. The shallot aphid, *Myzus ascalonicus* sp. n. (Homoptera, Aphidae). Proc. Roy. Ent. Soc. London (B) 15:27-31.

1946b. The shallot aphid, *Myzus ascalonicus* Doncaster, and its behavior as a vector of plant viruses. Ann. Appl. Biol. 35:66-68.

MACGILLIVRAY, M. E.

1954. Note on *Myzus ascalonicus* Doncaster (Homoptera:Aphidae) an aphid new to North America. Canadian Ent. 86:454.